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Robert Moser, MD, Secretary

Department of Health & Environment

Sam Brownback, Governor

July 11, 2013

Source ID No. 0210002

Mr. Jeff Burkett
Senior Environmental Coordinator
The Empire District Electric Company
P.O. Box 127
Joplin, Missouri 64802

RE: Air Emission Source PSD Construction Permit -- Riverton Power Station


Dear Mr. Burkett:

Enclosed is the Air Emission Source PSD Construction Permit for the conversion of Unit 12 from simple cycle to combined cycle operation at The Empire District Electric Company facility located in Riverton, Kansas. Also enclosed is a copy of the Responsiveness Summary. **Please review the enclosed Air Emission Source Construction Permit carefully, since it obligates The Empire District Electric Company to certain requirements.** The source ID number listed above should be included in all communications with the Kansas Department of Health and Environment (KDHE) in reference to this approval.

As provided for in K.S.A. 65-3008b(e), an owner or operator may request a hearing within 15 days after affirmation, modification or reversal of a permit decision pursuant to subsection (b) of K.S.A. 65-3008a. In the Request for Hearing, the owner or operator shall specify the provision of this act or rule and regulation allegedly violated, the facts constituting the alleged violation and secretary's intended action. Such request must be submitted to: Director, Office of Administrative Hearings, 1020 S. Kansas Avenue, Topeka, Kansas 66612-1327. Failure to submit a timely request shall result in a waiver of the right to hearing.

If you have any questions about the enclosed amendment to the construction permit, or need any additional information, please contact me at (785) 296-6281.

Sincerely,


Larry D. Lowry, P.E.
Environmental Engineer
Air Permitting Section

LDL:lv
Enclosures

c: Doug Cole, SEDO
C-10913



Robert Moser, MD, Secretary

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AIR EMISSION SOURCE CONSTRUCTION PERMIT

Source ID No.: 0210002

Effective Date: July 11, 2013

Source Name: The Empire District Electric Co. – Riverton Generating Station

SIC Code: 4911, Electric Services

NAICS Code: 221112, Fossil fuel power generation

Source Location: 7240 Southeast Highway 66
Riverton, Kansas 66770

Mailing Address: P.O. Box 127
Joplin, Missouri 64802

Contact Person Mr. Jeff Burkett
Sr. Environmental Coordinator
Telephone Number (417) 625-4236

This permit is issued pursuant to K.S.A. 65-3008 as amended.

I. Description of Activity Subject to Air Pollution Control Regulations

The Empire District Electric Company (Empire), Riverton Unit 12, a Siemens V84.3A(2) natural gas-fired combustion turbine, nominally rated at 150 MW, was originally issued a construction permit on October 18, 2005 (amended on August 18, 2006 and February 5, 2009) and began operation in 2007.

Empire plans to convert the existing Riverton Unit 12 simple cycle combustion turbine to a combined cycle unit, with a nominal capacity of 250 MW (1963 MMBtu/hr). The proposed combined cycle unit will replace the capacity and energy provided by coal fired boilers Unit 7 (426 MMBtu/hr) and Unit 8 (600 MMBtu/hr), which will both be retired in conjunction with the completion of this project. Empire plans to complete this conversion by June, 2016.

Modifications will include a heat recovery steam generator (HRSG) with supplemental natural gas duct firing (duct burners) and a condensing steam turbine generator. A selective catalytic reduction (SCR) system will control oxides of nitrogen (NO_x). A carbon monoxide catalyst will control carbon monoxide (CO) and volatile organic compound (VOC) emissions from the turbine and HRSG. Other equipment will include a cooling tower, an 18.6 MMBtu/hr natural gas-fired auxiliary boiler with the capacity to produce 15,000 pounds of steam per hour (approximately 18.6 MMBtu/hr), a 1102 HP (750 Kw) emergency diesel engine and two (2) sulfuric hexafluoride (SF_6) insulated circuit breakers. Except in the case of an actual emergency, Empire will not operate the emergency diesel engine more than 100 hours per year in a non-emergency capacity to accommodate maintenance and readiness testing.

Emissions increases of NO_x , sulfur dioxide (SO_2), carbon monoxide (CO), volatile organic compounds (VOC), particulate matter (PM), PM with a diameter less than 10 microns (PM_{10}), PM with a diameter less than 2.5 microns ($\text{PM}_{2.5}$), lead, sulfuric acid mist (SAM), hydrogen fluoride (HF), and carbon dioxide equivalent (CO_2e) were evaluated for this review. This is a major modification of a major stationary source for at least one regulated pollutant emitted in excess of the PSD significant emission levels. Since there is an increase in PM, PM_{10} , $\text{PM}_{2.5}$, and CO_2e emissions in excess of the significant thresholds, the proposed modification will be subject to the requirements of 40 CFR 52.21, Prevention of Significant Deterioration (PSD) as adopted under K.A.R. 28-19-350.

This project is subject to K.A.R. 28-19-300 (Construction permits and approvals; applicability) because the increase in potential-to-emit of PM exceeds 25 tons per year and PM_{10} exceeds 15 tons per year. The combined cycle unit (CT+HRSG) is an affected source subject to Title IV of the Federal Clean Air Act, Acid Deposition Control. The emergency diesel engine is subject to the requirements of 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion Engines.

An air dispersion modeling impact analysis, an additional impact analysis, and a Best Available Control Technology (BACT) determination were conducted as a part of the construction permit application process.

II. Significant Applicable Air Pollution Control Regulations

The following significant Kansas air quality regulations were determined to be applicable to this source:

- A. K.A.R. 28-19-11, Exceptions due to breakdown or scheduled maintenance – as applied to state regulations K.A.R. 28-19-30 through 32 and K.A.R. 28-19-650.
- B. K.A.R. 28-19-30 through 32, Indirect heating equipment emissions.
- C. K.A.R. 28-19-275, Special provisions; acid rain deposition.
- D. K.A.R. 28-19-300, Construction permits and approvals; applicability.
- E. K.A.R. 28-19-350, which adopts by reference 40 CFR 52.21, Prevention of significant deterioration of air quality.

- F. K.A.R. 28-19-650, Emissions opacity limits.
- G. K.A.R. 28-19-720, which adopts by reference 40 CFR Part 60, New Source Performance Standards.
- H. K.A.R. 28-19-750, which adopts by reference 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants.
- I. 40 CFR Part 60, Subpart A, General Provisions.
- J. 40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.
- K. 40 CFR Part 63, Subpart A, General Provisions.
- L. 40 CFR Part 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.
- M. 40 CFR Part 63 Subpart YYYY, National Emission Standards for Hazardous Air Pollutants from Stationary Combustion Turbines. Subpart YYYY, 63.6145 requires initial notification. Owners or operator of lean premix gas-fired stationary combustion turbines or diffusion flame gas-fired turbines must comply with the initial notification requirements set forth in 40 CFR 63.6145 but need not comply with any other requirement of 40 CFR Part 63 Subpart YYYY until EPA takes final action to require compliance and publishes a document in the Federal Register. [40 CFR 63.6095(d)] As of the date on this application, the EPA has not published such a document in the Federal Register.
- N. 40 CFR Part 60 Subpart KKKK, Standards of Performance for Stationary Gas Turbines, applies to stationary combustion turbines with a heat input at peak load equal to or greater than 10 MMBtu/hr, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005.
- O. 40 CFR Part 60 Subpart Dc, Standards of Performance for Small Industrial Commercial-Institutional Steam Generating Units applies to the auxiliary boiler. Since the auxiliary boiler will fire solely natural gas it is subject to the Reporting and Recordkeeping requirements of 40 CFR Part 60, Subpart Dc [40 CFR 60.48(c)].
- P. 40 CFR Part 63 Subpart 40 CFR Part 63 Subpart DDDDD Industrial, Commercial, and Institutional Boilers and Process Heaters (Boiler MACT) apply to the auxiliary boiler. Since the auxiliary boiler will fire solely natural gas it will not be subject to any emissions limits, but rather will be subject to a work practice standard that requires an annual tune-up in lieu of emission limits.

- Q. 40 CFR Part 72 through Part 78, Acid Rain Program (ARP), applies to utility units. A utility unit is defined as a unit owned or operated by a utility that serves a generator in any state that produces electricity for sale. Unit 12, when converted to a combined cycle operation, will continue to be subject to the ARP. The ARP requires various pollutant monitors in addition to possession of SO₂ allowances for each ton of SO₂ emitted. The current ARP permit, under which unit 12 currently operates will be modified as the project is completed.

III. Air Emission Unit Technical Specifications

The following equipment or equivalent is approved.

- A. Combined cycle combustion unit (CT+HRSG) - Conversion of one (1) Siemens Westinghouse Model V84.3A(2) simple cycle combustion turbine/generator, known as emission Unit 12, equipped with dry low NO_x burners, to a combined cycle operation, burning natural gas. The manufacturer's estimated performance is 250 MW. The combined cycle unit includes a heat recovery steam generator (HRSG) with supplemental natural gas duct firing (duct burners) and a condensing steam turbine generator with SCR and CO catalyst.
- B. One mechanical draft cooling tower with high efficiency drift eliminator to reduce aerosol and particulate emissions from the tower.
- C. One 750 Kw emergency diesel engine.
- D. One 18.6 Mm Btu/hr natural gas-fired auxiliary boiler with the capacity to produce 15,000 pounds of steam per hour. The auxiliary boiler is designed to operate when the combined cycle unit is in a brief period of shutdown and for startup.
- E. Two (2) Sulfur Hexafluoride (SF₆) – insulated circuit breakers.

IV. Air Emissions Estimates from the Proposed Activity

The air emissions estimates are shown below:

Baseline Actual Emissions and Projected Actual Emissions (tons per year)						
Pollutant Type	Units 7 & 8 Baseline Actual	Unit 12 Baseline Actual (before Project)	Total Baseline Actual Units 7, 8 & Unit 12 (before Project)	Unit 12 Actual Increase After Project)	Projected Actual Emissions (Unit 12 Combined Cycle Project minus Total Baseline)	PSD Significance Threshold
NOx	1120	34	1154	67	-1087	40

SO ₂	5004	1	5005	12	-4993	40
CO	90	3	93	60	-33	100
VOC	10	0.3	10.3	47.3	37	40
Lead	0.5	--	0.5	4.1x10 ⁻⁵	-0.5	0.6
SAM	2	0.1	2.1	6.93	4.83	7
HF	25	--	25	1.69x10 ⁻⁵	-25	3
PM	91	7	98	132	34	25
PM ₁₀	66	7	73	132	59	15
PM _{2.5}	26	7	33	132	99	10
CO ₂ e	640,234	123,604	763,838	1,020,590	256,752	75,000

V. Air Emission Limitations

- A. The BACT emission limitations established in this permit apply to the combined cycle unit (CT+HRSG) at all times, including startup, shutdown and malfunction, except as provided in Section VII. Performance Testing and Compliance, H. Malfunction, of this permit.
- B. K.A.R. 28-19-650 (a)(3): Opacity of visible emissions from all emission units shall not exceed 20 percent.
- C. Particulate matter emissions from all indirect heating equipment are limited to the amount determined by the following equation [K.A.R. 28-19-31(a)]:

$$A = 1.026 / I^{0.233}$$

Where: A = the allowable emission rate in lb / 10⁶ Btu
I = the total heat input of all boilers in 10⁶ Btu

- D. The NO_x emissions from the combined cycle unit (CT+HRSG) shall meet the applicable emission limits specified in 40 CFR 60.4320(a). NO_x emission limits shall not exceed the limits specified in Table 1 to Subpart KKKK of Part 60—Nitrogen Oxide Emission Limits for New Stationary Combustion Turbines. The NO_x emission limit specified in 40 CFR 60.4350(h) is 15 ppm @ 15% O₂ on a 30 unit operating day rolling average.
- E. The SO₂ emissions from the combined cycle unit (CT+HRSG) shall meet the applicable emission limits specified in 40 CFR 60.4330(a) which is 110 Nanogram/joule (0.90 lb/gross MW-hr).

F. The BACT PM/PM₁₀/PM_{2.5} emissions shall not exceed:

1. 30.2 lb per hour (front + back half) for the combined cycle unit (CT + HRSG).
2. 0.005 lb/MMBtu for the auxiliary boiler.
3. 0.15 g/bhp-hr for the diesel engine
4. drift rate of 0.0005 percent of inlet flow for the mechanical draft cooling tower

G. The BACT Greenhouse Gas emissions shall not exceed:

1. For the combined cycle combustion turbine and duct burners.

- a. CO₂ emissions are limited to 1,021,770 tons CO₂/year on a 12-month rolling basis,

and the following equation (Equation G-4 of Section 2.3 of 40 CFR Part 75, Appendix G, Revised March 19, 2012):

$$W_{CO_2} = \left(\frac{F_c \times H \times U_f \times MW_{CO_2}}{2000} \right) \quad (Eq. G-4)$$

Where:

W_{CO_2} = CO₂ emitted from combustion, tons/hr.

MW CO₂ = Molecular weight of carbon dioxide, 44.0 lb/lb-mole.

F_c = Carbon based F-factor, 1040 scf/mmBtu for natural gas; 1,420 scf/mmBtu for crude, residual, or distillate oil; and calculated according to the procedures in section 3.3.5 of appendix F of 40 CFR, Part 75 for other gaseous fuels.

H = Hourly heat input in MMBtu, as calculated using the procedures in Section 5 of Appendix F of 40 CFR, Part 75.

U_f = 1/385 scf CO₂ /lb-mole at 14.7 psia and 68 °F.

- b. BACT emission limits are required for CO₂, only, since it is 99.9% of emissions.

2. For the Auxillary boiler.

- a. CO₂ emissions are limited to 9,512 tons CO₂/year on a 12-month rolling basis and the following equation:

$$CO_2 \text{ (lb/MMBtu)} = Ef \times (2.20462 \text{ lb/kg})$$

Where:

Ef = Emission Factor for CO₂ in kg CO₂/MMBtu using specified values for natural gas fuel from Table C-1 of 40 CFR Part 98, Subpart C, Revised May 31, 2013)

- b. BACT emission limits are required for CO₂, only, since it is 99.9% of emissions.

3. For the Emergency generator.

CO₂ emissions are limited to 59.3 tons CO₂/year on a 12-month rolling basis and the following equation:

$$\text{CO}_2 \text{ (lb/MMBtu)} = \text{Ef} \times (2.20462 \text{ lb/kg})$$

Where:

Ef = Emission Factor for CO₂ in lb/MMBtu using specified values for Distillate Fuel Oil No. 2 from Table C-1 of 40 CFR Part 98, Subpart C, Revised May 31, 2013)

- b. BACT emission limits are required for CO₂, only, since it is 99.9% of emissions

4. Sulfur hexafluoride (SF₆) Electrical Breakers.

- a. Maintain fugitive emissions below 0.5% (by weight) of SF₆ with state-of-the-art SF₆ circuit breakers with leak detection and implementation of an LDAR program and density monitor alarm set to 4 psi drop.

- H. Pursuant to 40 CFR 60.4205(b), the owner or operator of the emergency diesel engine, shall comply with the applicable emission standards. In accordance with 40 CFR 60.4205(b), which references 40CFR 89.112 and 40 CFR 89.113, the emergency diesel engine's NMHC+ NO_x emissions shall not exceed 6.4 g/kW-hr (4.8 g/hp-hr), CO emissions shall not exceed 3.5 g/kW-hr (2.6 g/hp-hr), and PM emissions shall not exceed 0.2 g/kW-hr (0.15 g/hp-hr) over the life of the engine. The emergency diesel engine shall be certified by the manufacturer to meet these emission limits per 40 CFR 60.4202(a)(2). The owner or operator shall also meet the requirements of 40 CFR 60.4206.
- I. The facility shall comply with applicable requirements of 40 CFR Part 63 Subpart ZZZZ (refer to 40 CFR 63.6590(c)). If a conflict exists between the federal rule and the permit, requirements of the federal rule shall take precedent.
- J. Applicability of Federal Rule General Provisions. For the emergency diesel engine, 40 CFR 60.4218 identifies the Subpart A requirements that are applicable. Empire shall also comply with Subpart A, as applicable, for Subparts KKKK and Dc.

VI. Permit Conditions

- A. Startup and shutdown are defined as follows:
1. Startup: The period from when the combined cycle unit (CT+HRSG) is started until reaching 50% of the combustion turbine (CT) load. The startup periods will be readily identifiable by the monitoring system. Such periods shall not exceed 8 hours.
 2. Shutdown: The period when the combined cycle unit (CT+HRSG) is shutting down from 50% of combustion turbine (CT) load to 0% of combustion turbine (CT) load. The shutdown periods shall be readily identifiable by the monitoring system. Such periods shall not exceed 2 hours.
- B. The combined cycle unit (CT+HRSG) shall operate at load conditions between 50% of combustion turbine (CT) load and 100% of combined cycle unit (including HRSG and maximum duct burner firing capacity except during startup and shutdown.
- C. The combined cycle unit (CT+HRSG) shall use only natural gas as a fuel.
- D. The high efficiency drift eliminators for the Mechanical Draft Cooling Tower are an integral part of the design and shall function any time the cooling tower is in operation.
- E. Compliance with the PM/PM₁₀/PM_{2.5} BACT limit for the Mechanical Draft Cooling Tower shall be demonstrated by maintaining records of the vendor-guaranteed drift rate of 0.0005 percent of inlet flow. No chromium-based water treatment chemicals shall be used in the circulating water system and thus the requirements of 40 CFR Part 63, Subpart Q shall not apply.
- F. The emergency diesel engine shall burn only low sulfur diesel fuel oil that is \leq (less than or equal to) 15 ppm sulfur in accordance with 40 CFR 60.4207(b).
- G. Compliance with the PM/PM₁₀/PM_{2.5} and CO_{2e} BACT limit for the emergency diesel engine is established by the BACT analysis and emissions calculations submitted with the permit application.
- H. The auxiliary boiler shall use only natural gas as a fuel.
- I. Compliance with the PM/PM₁₀/PM_{2.5} BACT limit for the auxiliary boiler is established by the BACT analysis and emissions calculations submitted with the permit application.
- J. Compliance with the CO_{2e} BACT limit for the combined cycle unit, including the combustion turbine and duct burners shall be demonstrated with an oxygen (O₂) concentration monitor in accordance with CO₂ calculations provided in 40 CFR Part 75. Calculations shall consist of CO₂ emissions only, which account for 99.9% of total CO_{2e} emissions.
- K. Compliance with the PM/PM₁₀/PM_{2.5} BACT limit for the combined cycle unit shall be demonstrated with a performance test.

- L. Compliance with the CO₂e BACT limit for the auxiliary boiler shall be demonstrated by recording fuel usage and using emissions factors from Tables C-1 and C-2 of 40 CFR Part 98, Subpart C along with the Global Warming Potential Factors from Table A-1 of 40 CFR Part 98, Subpart A (as published in 74 FR 56374 on October 30, 2009) to determine resulting emissions on a monthly basis. Reports of excess emissions shall be submitted semi-annually.
- M. The SF₆ Insulated Circuit Breakers shall continuously use a density (leak detection) alarm system on the SF₆ circuit breakers with a threshold of 10 percent. In the event of an alarm, the owner or operator shall immediately investigate the event and take an necessary corrective action to address any problems.
- N. Compliance with the CO₂e BACT limit for the SF₆ Insulated Circuit Breakers shall be demonstrated by calculating the annual mass emissions of SF₆ from the electrical breakers using an annual SF₆ leak rate of 0.5% by weight and the Global Warming Potential Factor for SF₆ from Table A-1 of 40 CFR Part 98, Subpart A (as published in 74 FR 56374 on October 30, 2009) to determine resulting emissions on a monthly basis. Reports of excess emissions shall be submitted semi-annually.
- O. 40 CFR Part 60 Subpart IIII - Requirements for the emergency diesel engine:
1. For the emergency diesel engine, 40 CFR 60.4218 identifies the Subpart A requirements that are applicable.
 2. The owner or operator shall comply with applicable diesel fuel requirements of 40 CFR 60.4207(b).
 3. For the emergency diesel engine, the provisions of 40 CFR 60.4211(f) apply. Maintenance checks and readiness testing is limited to 100 hours per year, of which up to 50 hours per year may be for non-emergency situations. There is no time limit on the use of the emergency diesel engine in emergency situations.
 4. The owner or operator shall comply with applicable requirements of 40 CFR Part 60 Subpart IIII. If a conflict exists between the federal rule and the permit, the requirements of the federal rule shall take precedence.
- P. In accordance with 40 CFR Part 63 Subpart 40 CFR Part 63 Subpart DDDDD Industrial, Commercial, and Institutional Boilers and Process Heaters, the auxiliary boiler, firing solely natural gas, is subject to a work practice standard that requires an annual tune-up in lieu of emission limits.
- Q. Monitoring Requirements for Emergency Diesel Engine - If the emergency diesel engine does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter prior to startup of the engine, as specified in 40 CFR 60.4209.
- R. Empire shall permanently remove Unit 7 and Unit 8 from service when the Unit 12 combined cycle unit (CT+HRSG) begins commercial operation.

VII. Performance Testing and Compliance

- A. Within 60 days after achieving a maximum production rate at which the combined cycle unit (CT+HRSG) will be operated, but not later than 180 days after initial start-up of the combined cycle unit, and every 5 years thereafter, the owner or operator shall conduct performance test(s) for PM, PM₁₀, PM_{2.5} to demonstrate compliance with the applicable conditions and limitations set forth in this permit and furnish KDHE a written report of the results of such performance test(s).
- B. Within 60 days after achieving a maximum production rate at which the combined cycle unit (CT+HRSG) will be operated, but not later than 180 days after initial start-up of the combined cycle unit, the owner or operator shall conduct performance test for Sulfuric Acid Mist to demonstrate compliance with the estimated emission rates supplied in the permit application and furnish KDHE a written report of the results of such performance test.
- C. In accordance with 40 CFR Part 60, Subpart KKKK, all continuous monitoring systems and monitoring devices required shall be installed and operational prior to conducting performance tests under 40 CFR 60.8. Verification of operational status, at a minimum, includes completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device as required by 40 CFR 60.13.
- D. In conducting the performance tests required by this permit, the reference test methods and procedures outlined in K.A.R. 28-19-212 and approved by KDHE, shall be used to demonstrate compliance with the limitation and conditions set forth in this permit.
- D. For the emergency diesel engine, the owner or operator must install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions. The owner or operator must not change emission-related settings in a way that is not permitted by the manufacturer, or thereafter demonstrate compliance as specified at 40 CFR 60.4211(g)(3).
- E. Compliance with NO_x emission limits for the combined cycle unit (CT+ HRSG) shall be demonstrated with a NO_x continuous emission monitor (CEM) that follows the requirements listed in 40 CFR 60.4340(b).
- F. The NO_x CEM shall be installed, certified, operated, maintained, and quality assured in accordance with 40 CFR 60.4345.
- G. Compliance with SO₂ emission limits shall be demonstrated in accordance with the requirements in 40 CFR 60.4330 and 40 CFR 60.4360.

- H. Malfunction: The Owner or Operator must notify KDHE by telephone, facsimile, or electronic mail transmission within two (2) working days following the discovery of any failure of air pollution control equipment, process equipment, or of the failure of any process to operate in a normal manner which results in an increase in emission above the allowable emission limit stated in section "V. Air Emission Limitations" of this permit, a written notification shall be submitted within ten (10) days of the event.

The written notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in "Air Emission Limitations," and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification shall not automatically absolve the owner or operator of liability for the excess emissions resulting from such event.

The following criteria will be used by KDHE to evaluate whether emissions from a malfunction are excluded in determining compliance with the emission rate contained herein:

1. The excess emission were caused by a sudden, unavoidable breakdown of technology, beyond the control of the owner or operator;
2. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned for, and could not have been avoided by better operation and maintenance practices;
3. To the maximum extent practicable, the air pollution control equipment or processes were maintained and operated in a manner consistent with good practices for minimizing emissions;
4. Repairs were made in an expeditious fashion when the operator knew or should have known that applicable emission limitations were being exceeded. Off-shift labor and overtime must have been utilized, to the extent practicable, to ensure that such repairs were made as expeditiously as practicable.
5. The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;
6. All possible steps were taken to minimize the impact of the excess emissions on ambient air quality;
7. All emission monitoring systems were kept in operation if at all possible;
8. The owner or operator's actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs, or other relevant evidence;
9. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
10. The owner or operator properly and promptly notified the appropriate regulatory authority.

- I. Stack parameters for all equipment listed under Section III, Air Emissions Unit Technical Specifications, which may include, but not limited to stack heights, stack diameters, exhaust temperatures, emission rates, and exit velocities, shall be consistent with data provided for the dispersion modeling analysis. Actual operational conditions shall be consistent with data provided for the dispersion modeling analysis.

VIII. Recordkeeping

- A. The owner or operator of the combined cycle unit (CT+HRSG) shall maintain records of the occurrence and duration of any start-up, shut-down, or malfunction in the operation of the combined cycle unit (CT+HRSG); any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. These requirements are described in 40 CFR 60.7(b).
- B. As required under 40 CFR 60.7(f), the owner or operator shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records, with certain exceptions specified under 40 CFR 60.7(f).
- C. Reports of excess emissions shall be submitted semi-annually in accordance with the requirements in 40 CFR 60.7(c).
- D. Records shall be kept on site for two (2) years in accordance with 40 CFR 60.7(f).
- E. For the emergency diesel engine, the owner or operator must keep records of the emergency and non-emergency operations of the engine through a non-resettable hour meter if it does NOT meet the standards applicable to the non-emergency engines in the applicable model year. The times of operation and the reasons for operation must be recorded, as specified in 40 CFR 60.4214(b).
- F. A record shall be maintained demonstrating that the auxiliary boiler is in compliance with the particulate matter emission rate limit of Section V.C. Air Emission Limitations of this permit. After the initial evaluation, the particulate emission rate limitation shall be re-evaluated when either the process changes or an emission factor increases.
- G. In accordance with 40 CFR 60.7(b), the owner/operator shall keep records of the occurrence and duration of any start-up, shutdown or malfunction in the operation of the auxiliary boiler.
- H. In lieu of the daily record keeping requirements of 40 CFR 60.48c(g), the owner or operator shall record and maintain records of the amount of fuel combusted in the auxiliary boiler on a monthly basis. The records of the amounts of fuel burned can be maintained in the form of monthly fuel bills or meter readings, or other records that adequately document fuel usage.

- I. In accordance with 40 CFR 60.48c(i), all of the required records shall be maintained by the owner or operator of the auxiliary boiler for a period of two years following the date of record.

IX. Reporting

Reports demonstrating compliance shall be submitted to the KDHE in the same units as stated in the applicable requirements.

- A. Items required to be reported semi-annually shall be submitted to KDHE and postmarked by the 30th day following the end of each calendar half.
- B. Items required to be reported annually shall be submitted to KDHE and postmarked by the 30th day following the end of each calendar year.
- C. The combined cycle combustion unit (CT+HRSG) excess emissions and monitoring systems performance report and/or a summary report shall be submitted to the KDHE as required by 40 CFR 60.7(c) on a semi-annual basis. The summary report form shall contain the information and be in the format as specified in 40 CFR 60.7(d). One summary report form for NO_x and one summary report form for the sulfur content of the fuel shall be submitted. Written reports of excess emissions shall include the following information:
 1. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, the date and time of commencement and completion of each time period of excess emissions, and the process operating time during the reporting period.
 2. Specific identification of each period of excess emissions that occurs during start-ups, shut-downs, and malfunctions, the nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
 3. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero span checks and the nature of the system repairs and adjustments.
 4. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
- D. Reports required under Section IX. Reporting, Item C of this permit, periods of excess emissions as defined in 40 CFR 60.4350 shall be reported accordingly.
- E. The compliance demonstration for Section V. Air Emission Limitations, Item D, of this permit, shall be reported on an annual basis.

- F. If significant changes are made, or modeling parameters are not representative of site conditions, the owner or operator shall document compliance with the applicable NAAQS and allowable PSD increment consumption and submit documentation of compliance to KDHE prior to making the change(s). KDHE has final authority in determining what constitutes a significant change. If modeling indicates a potential NAAQS or increment exceedance, then mitigation shall be required.

X. Notification

- A. The Air Quality Representative in the Southeast District Office shall be notified within 30 days of when installation of the equipment is complete so an evaluation may be conducted to verify compliance with applicable regulations.
- B. K.A.R. 28-19-720 (40 CFR 60.7(a) and 60.8(d) requires that written notifications of the following be submitted to KDHE:
1. The date construction of the combined cycle unit (CT+HRSG), the auxiliary boiler and the emergency diesel generator are commenced. The notification is to be postmarked no less than 30 days after such date.
 2. The actual date of initial startup of the combined cycle unit (CT+HRSG), auxiliary boiler and emergency diesel generator. The notification is to be postmarked within 15 days after such date.
 3. The actual date the combined cycle unit (CT+HRSG) enters commercial operation and the date(s) Unit 7 and Unit 8 are removed from service. The notification is to be postmarked within 15 days after such date(s).
 4. The date when the initial performance testing of the combined cycle unit (CT+HRSG) is to commence. The notification is to be postmarked no less than 30 days prior to such date.
 5. The date upon which demonstration of the continuous monitoring system performance commences in accordance with 40 CFR 60.13(c). Notification shall be postmarked no less than 30 days prior to such date.
- C. Notification of the performance test shall include a performance test protocol which includes a description of the test and applicable test methods. Notification of the date(s) for performance testing shall be submitted to KDHE, postmarked at least 30 days prior to such date(s). Performance testing shall also be coordinated with the KDHE Bureau of Air, Compliance and Enforcement Section at 785-296-0243 at least 30 days prior to the date(s) of the test.

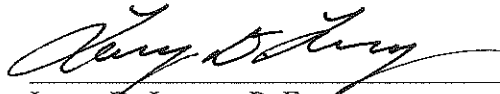
- D. At the time of permit issuance, the turbines are subject to 40 CFR Part 63, Subpart YYYY, however pursuant to 40 CFR 63.6095(d) there has been a stay of standards for gas-fired subcategories. Owners or operator of lean premix gas-fired stationary combustion turbines and diffusion flame gas-fired turbines must comply with the initial notification requirements set forth in 40 CFR 63.6145 but need not comply with any other requirement of 40 CFR Part 63 Subpart YYYY until EPA takes final action to require compliance and publishes a document in the Federal Register. [40 CFR 63.6095(d)]

XI. General Provisions

- A. This document shall become void if construction, installation or modification to convert the existing Riverton 12 simple cycle combustion turbine to a combined cycle unit has not commenced within 18 months of the effective date of this permit, or if the construction, installation or modification to convert the simple cycle combustion turbine to a combined cycle unit is interrupted for a period of 18 months or longer.
- B. A construction permit or approval must be issued by KDHE prior to commencing any construction or modification of equipment or processes which result in an increase in potential-to-emit equal to or greater than the thresholds specified at K.A.R. 28-19-300.
- C. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow a representative of the KDHE (including authorized contractors of the KDHE) to:
1. enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under conditions of this document;
 2. have access to and copy, at reasonable times, any records that must be kept under conditions of this document;
 3. inspect at reasonable times, any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this document; and
 4. sample or monitor, at reasonable times, for the purposes of assuring compliance with this document or as otherwise authorized by the Secretary of the KDHE, any substances or parameters at any location.
- D. The emission unit or stationary source which is the subject of this document shall be operated in compliance with all applicable requirements of the Kansas Air Quality Act and the Federal Clean Air Act.
- E. This document is subject to periodic review and amendment as deemed necessary to fulfill the intent and purpose of the Kansas Air Quality Statutes and Regulations and rules promulgated in accordance therewith.

- F. This document does not relieve the permittee of the obligation to obtain other approvals, permits, licenses or documents of sanction which may be required by other federal, state or local government agencies.
- G. Issuance of this document does not relieve the owner or operator of any requirement to obtain an air quality operating permit under any applicable provision of K.A.R. 28-19-500.

Permit Engineer



Larry D. Lowry, P. E.
Environmental Engineer
Air Permits Section

7-11-13

Date Signed

LDL:lv
c: SEDO
C-10913